Air Monitoring and Pre-Design Inspection Addendum
Revision No. 0 to the
Sampling and Analysis Plan Revision No. 2
for
Former Vermiculite Intermountain Facility-SLC2
100 South 333 West
Salt Lake City, Utah

Libby Sister Sites (Asbestos Project)
December 2003

Prepared for:

EPA Region 8

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999 18th Street
Suite 500, 8EPR-ER
Denver, Colorado 80202-2466

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for

Libby Sister Sites
Former Vermiculite Intermountain Facility-SLC2
Salt Lake City, Utah

EPA Region VIII

December 2003

Contract No. DTRS57-99-D-00017
Task Order No. C0023

Prepared for:

U.S. Environmental Protection Agency
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Section 1
Introduction

This air monitoring and pre-design inspection (AM/PDI) addendum to the sampling and analysis plan (SAP) Revision No. 2 for the former Vermiculite Intermountain facility - SLC2 (site) CDM Federal Programs Corporation [CDM] 2003 defines additional sampling and analytical procedures that will be conducted during the AM/PDI at the site. Any procedure or requirement discussed in the SAP will be followed during this investigation, if applicable, unless noted in this addendum.

1.1 Project Objectives

The objective of the fieldwork conducted under this addendum is to gather supplemental air monitoring data and information that will be used to design the removal action at the site. This data includes asbestos concentrations in personal and ambient indoor air and dust, as well as physical building information collected during the inspection (e.g., building contents, dimensions, floor plans, etc.).

1.2 Project Schedule

The AM/PDI field activities will be performed December 2 - 3, 2003. A draft letter report presenting the results of the activities is scheduled to be completed by December 31, 2003. This report will include a quality assurance (QA) section that discusses achievement of data quality objectives (DQOs), modifications to this SAP addendum, the usability of the data collected, and a data quality assessment. This data quality assessment will be performed as part of the data review and evaluation process. A formal data assessment will be performed by a project team member who is familiar with the project DQOs and is capable of assessing whether all aspects of the project goals were met. The purpose of the formal project data assessment is to document changes, additions, or deletions in the field or analytical procedures as they relate to the SAP, and to independently evaluate the effects modifications may have on the project DQOs.

Other possible formal data assessments that may be carried out over the course of the project include:

- Review and verification of procedures followed as part of real-time control charting of QC samples analyzed via field and contract laboratory procedures
- Evaluation of the flow of electronic data

1.3 Project Personnel

Organization and responsibilities specific to this field investigation are listed in the SAP (CDM 2003).

Section 3
Sampling Strategy, Locations, and Rationale

Proposed air and dust sample types and locations are presented in Figure 3-1A.

3.1 Sampling Strategy

All sampling at this site will be conducted to determine asbestos concentrations in dust and air (indoor ambient and personal). The letter report providing previous sampling results is included in Attachment A to help determine exact locations for ambient air and additional dust samples to be collected.

3.2 Sampling Locations

Sample locations pertinent to this AM/PDI for each media type are described below. Any additional sampling procedures or changes to the SAP not included in this addendum will be documented in detail in the applicable field logbook. Sample numbers and type reflect the perceived threat to workers in each building and the proximity of the building to the former processing plant.

3.2.1 Microvacuum Dust Samples

A total of 11 dust samples will be collected during this sampling event. Six dust samples will be collected inside the Utah Paperbox building, three from inside Artistic Printing, and two from inside the Frank Edwards building as indicated in Figure 3-1A. The specific locations of the dust sampling will be determined in the field by the Volpe Center field team leader (with the aid of the dust sampler) but should be biased to obtain a "worst case" scenario. That is, composite dust samples will be taken from areas where dust gathers and/or is visible (e.g., tops of shelves, window sills, etc). For the Artistic Printing building, two of the three dust sample locations will be from areas that were not accessible during the last sampling event (i.e., the office and dumpster area). The third location will be collected in a biased area similar to the Utah Paperbox and Frank Edwards building samples.

3.2.2 Air Samples

Thirteen ambient indoor air samples will be collected. Six will be collected inside the Utah Paperbox building, five inside Artistic Printing, and two inside Utah Power & Light (UP&L). The locations of these air samples will be determined in the field by the Volpe Center field team leader (with the aid of the air sampler) but should be biased to obtain a worst case scenario. That is, ambient indoor air samples will be collected near areas where dust gathers and/or is visible (e.g., tops of shelves, window sills, etc).

Four personal air samples will also be collected during this field event. Two personal air samples will be collected from Artistic Printing employees and two from Utah Paperbox Company workers to monitor worker exposure. Personal air samples are

planned to be worn by Artistic Printing employees working in areas where previous dust results have exceeded U.S. Environmental Protection Agency (EPA) action levels for Libby amphibole (LA) asbestos and conducting routine activities that would cause the highest level of exposure. Personal air samples for Utah Paperbox Company employees will be collected in areas where the highest concentration of asbestos is most likely to be (based on dust accumulation, visible dust, etc.) and/or by workers whose routine activities are more likely to cause them to be exposed to dust (e.g., custodians). No unusual or aggressive dust-raising scenarios will be conducted inside operating businesses before removal actions are initiated and completed. The specific workers will be recommended by the Volpe Center field team leader with the approval of the owner/manage employee of the affected business and the EPA on-scene coordinator (OSC). A video of the routine activities conducted by the employees during personal air sampling will also be produced and recorded on a compact disc.

3.3 Quality Assurance/Quality Control Samples

For this AM/PDI, the field quality control (QC) samples collected will be field and lot blanks for both dust and air samples. Field blanks will be collected at a frequency of 1 per 20 field samples (5 percent) for dust and 1 per 10 field samples (10 percent) for air. Lot blanks will be collected at one per lot used for air and dust samples. If the number of samples collected remains as noted above, one field and one lot blank will be collected for dust and two field and one lot blank will be collected for air. The procedure for collecting these and reasons/uses for these QC samples are discussed in the SAP (CDM 2003).

For the personal air samples at the Utah Paperbox Company, their industrial hygienist is requiring split samples. This will be accomplished by the employee wearing two calibrated pumps operating simultaneously with filters side-by-side. The samples will be numbered the same with an R after the sample considered a split sample for Utah Paperbox Company, but recorded on separate chain-of-custodies.

Section 4
Field Activity Methods and Procedures

All procedures and activities will be conducted in accordance with Section 4 of the SAP, as applicable, with the following additions:

4.1 Indoor Ambient Air Sampling

Thirteen indoor ambient air samples will be collected by drawing at least 2400 liters of air through a mixed cellulose ester (MCE) filter (0.45 micrometer pore size) at a specified flow rate for a specified period of time. The details of the method are provided in EPA Standard Operating Procedure 2015 Asbestos Sampling (Appendix B of the SAP). Under normal circumstances, ambient air samples will be collected at a flow rate of 10 liters per minute (L/min) over a 4-7 hour sampling period.

Depending on the sampling conditions, work activities, the level of asbestos in the air, and the level of interfering particles in the air, the flow rate, total sampling time, and/or sampling volume may require modifications. The decision to modify the flow rate, time, or volume will be made by the air sampler in consultation with the EPA OSC and the Volpe Center field team member.

4.2 Physical Information Gathering

Specific physical data regarding the Artistic Printing building will be collected during the AM/PDI. Some of the details noted will include:

- Building dimensions, including interior room detail (i.e., size, wall height, separation of functional space, etc.)
- Approximate interior cubic feet
- General description of items located in each room (i.e., cabinets, desks, printing apparatus, equipment, etc.)
- Location of obvious contaminated areas (i.e., significant dust accumulation)
- General description of condition of building, noting obvious damage as a result of previous water leaks, fire, etc.
- General description and location of heating, ventilation, and air conditioning (HVAC) system
- Location of all utility shutoff points (i.e., electrical, plumbing, etc.)
- Number, size, and location of proper entries into the building (i.e., doors, loading doors, etc.)
- Number, size, and location of windows

- Number, size, and location of air vents throughout the building
- Any other critical voids observed throughout the building (i.e., conduits, cracks, chimney, etc.)
- General description of exterior property for contractor setup purposes
- Any special concerns or instructions from the business owner

All of the above information will be noted in the field logbook, along with any other information that may be pertinent to the design of the removal action. If a floor plan or schematic of the building is not provided, a sketch of the property will be completed on a separate piece of paper (e.g., 11 by 17 inch) and included with the information. A video of the building inspection will also be produced and recorded on a compact disc.

Section 5
Project Management

This quality assurance project plan (QAPP) addendum to the SAP supports dust and air sampling at SLC2 for the AM/PDI. All procedures and requirements in Section 5 of the SAP will be followed, if applicable, with the exceptions/additions described below.

5.1 Data Quality Objectives

All steps of the DQOs, as detailed in the SAP, are applicable with the following changes.

5.1.1 Problem Statement

This addendum was developed at the request of the Volpe Center to collect additional air monitoring data from inside neighboring building and gather enough information for development of a work plan for the removal action at the Artistic Printing building What about the other properties where samples will be collected? Sampling and other data acquisition under this AM/PDI addendum to the SAP are scheduled to occur December 2 through 3, 2003. These field activities are limited to collecting air monitoring data for future assessment of risk to building occupants and gathering physical information on the building interior of Artistic Printing. Again, what about the other properties? The only anticipated alternative actions would be either no further action or additional sampling, analysis, and/or information gathering.

5.1.2 Identify the Decision

Two types of data will be collected during this field event; asbestos content in collected samples (i.e., dust, ambient indoor air, and personal air) and physical building information. The asbestos content of dust and air samples will be determined to help characterize the site and surrounding area. Therefore, the first principal study question is "Has enough asbestos content data been collected to characterize the site and surrounding area?" The physical information that will be gathered will be used to design the removal action at Artistic Printing. Other properties? Therefore, the second principal study question is "Has enough data been gathered to design the removal action at the Artistic Printing building and produces a work plan?" Other properties?

The decision statements for this site are to:

1. Determine whether or not enough asbestos content data has been collected to characterize the site.

2. Determine whether or not enough physical information has been collected to design the removal action at the site.

5.1.3 Inputs to the Decision

To answer the principal study question, the decision-makers need to know the concentrations of asbestos in the dust and air using refined analytical methods described in Section 5.2 of this addendum and physical information about the buildings to be cleaned.

5.1.4 Boundaries for the Removal Assessment

Spatial Boundaries

The horizontal boundaries for the AM/PDI are the perimeters of the Artistic Printing, Utah Paperbox, Frank Edwards, and UP&L buildings. The vertical boundaries are from the lowest floor surface of each building to the ceiling.

Temporal Boundaries

The temporal boundaries for the AM/PDI sampling are noted in Section 5.4.1.4 of the SAP. The data collection for this field event will be conducted December 2 through 3, 2003.

5.1.5 Decision Rule

The parameters of interest for the AM/PDI sampling are described in Section 5.4.1.5 of the SAP with the addition of the physical characteristics of the buildings and interiors. The decision rule for this assessment is:

1. If enough data are known to characterize the site and surrounding area, then no further action will be taken. If not enough data have been collected to characterize the site, then more data will be collected.

2. If enough data are known to design the removal action at the site, then no further action will be taken. If not enough data have been collected to design the removal action at the site, then more data will be collected.

5.1.6 Specify Tolerable Limits on Decision Errors

There are no action levels for this AM/PDI and, therefore, there are no tolerable limits on decision errors and no "gray" region. Is this consistent with the original SAP – no gray region? Should probably do same here as we did in original.

5.1.7 Optimize the Decision for Obtaining Data

This step of the DQOs is discussed in Section 5.4.1.7 of the SAP (CDM 2003).

5.2 Laboratory Analysis

Analytical services for asbestos analysis in dust and air samples will be conducted by the following laboratory:

Reservoir Environmental Inc.
2059 Bryant Street
Denver, CO 80211

Attn: Ms. Jeanne Orr, (303) 964-1986

Note: All air and dust samples will be analyzed using transmission electron microscopy (TEM), ISO Method 10312 as listed in Table 5-1A. Through either increased sampling time and/or grid counts, a sensitivity of 0.001 fibers per cubic centimeter must be achieved to allow determination of worker exposure, if necessary.

Section 6
Measurement and Data Acquisition

6.1 Sample Process Design

The general goal of the investigation is to collect enough information to characterize the site and design the removal action at the Artistic Printing building. What about other properties?

6.2 Sample Labeling and Identification

The same index identification (ID) and sample ID requirements will be followed as stated in the SAP with the following additions:

1. Index IDs will only be 7 alpha numeric characters long (SLC2-###) and will begin with SLC2-050.

2. Additional media identifier (AA - ambient air).

3. Additional station ID (B01 - ambient indoor air, inside building).

6.3 Methods

All air and dust samples will be analyzed using TEM, ISO Method 10312 to allow for the required sensitivity of 1 per 10,000 risk or 0.001 fibers per cubic centimeter.

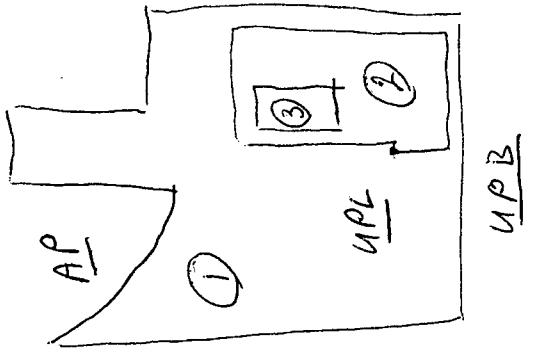
Figure

① 47034 ft²
@ 2' = 2613 yd³

② 6726 ft²
@ 3' = 747 yd³

③ 1481 ft²
@ 10' = 549 yd³

3909 yd³



AP ≈ 27k

UPL ≈ 8.8k

UPB ≈ 98k

Color Photo(s)

The following pages contain color that does not appear in the scanned images.

To view the actual images, please contact the Superfund Records Center at (303) 312-6473.

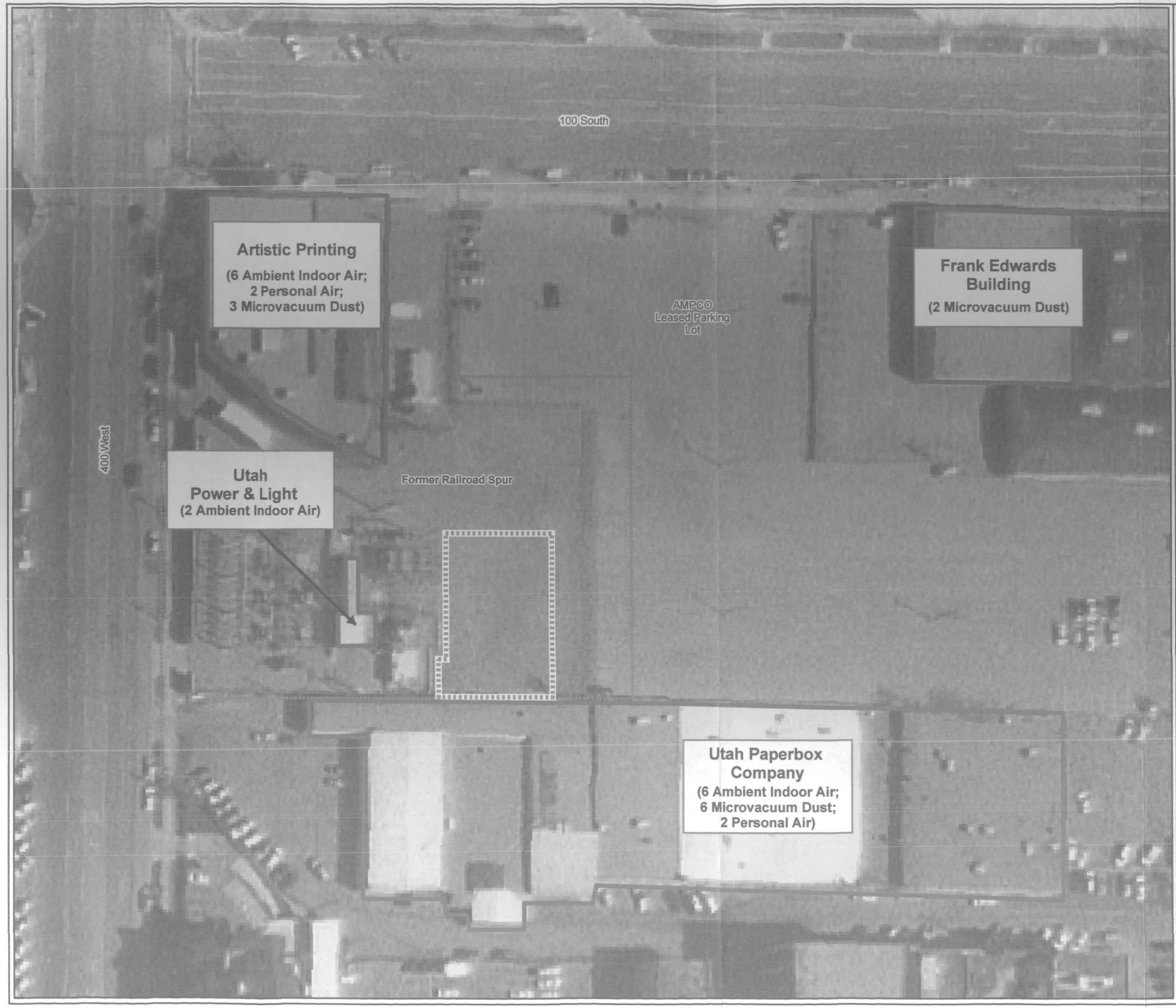


Figure 3-1A
Layout and Sample Information Map
Air Monitoring and
Pre-design Inspection Addendum
Revision No. 0 to the SAP
Revision No. 2
Vermiculite Intermountain Facility
Libby Sister Site
Salt Lake City, UT-SLC2

Legend

- Approximate Boundary of Former Processing Building
- Site Boundary
- Building Outline
- ( ) Number and Type of Samples for each Building

N
W E
S

Feet
0 25 50 75 100

CDM

Mapfilename: 2607-Volpe/207-Salt Lake/gis/031121_Figure2A_transformer.mxd KS 2003-11-24

Table 5-1A Summary of Analytical Methods

Matrix	Analysis	Holding Time	Analytical Method
Soil	Preparation Asbestos (bulk) by PLM Polychlorinated Biphenyls	NA 14 days for extraction, 40 days for analysis	See CDM 2003b NIOSH Method 9002 SRC-Libby-01 SRC-Libby-03 SW-846 Method 8082
Waste/ Product	Preparation Asbestos (bulk) by PLM	NA	See CDM-2003b NIOSH Method 9002
Dust	Microvacuum Sampling and Indirect Analysis Dust by Transmission Electron Microscopy for Asbestos Structure Number Concentrations TEM Counting Protocol: International Standard, Determination of asbestos fibers	NA	ASTM 5755 ISO 10312 (Counting Protocol)
Air Ambient	Asbestos and Other Fibers by TEM	NA	ISO 10312
Air Personal	Asbestos and Other Fibers by TEM Asbestos by PCM (for workers health and safety evaluations)	NA	ISO 10312 NIOSH 7400 (and NIOSH 7402 if PCM reading for any sample is above OSHA regulations)

NA = Not applicable

Please note:

ISO 10312: modified by LB-000016
All TEM methods: LB-00019, LB-000028, LB-000029, LB-000030
For water samples: Mod LB-000020, LB-000030
SRC-Libby-03: Mod LB-000022
PLM NIOSH 9002: LB-000024

November 10, 2003

Mr. John McGuiggin, PE
USDOT/RSPA/Volpe Center/DTS-33
55 Broadway, Kendall Square
Cambridge, Massachusetts 02142

Subject: Contract DTRS57-99-D-00017, Task Order C0023
USEPA Region 8, Asbestos Project - Emergency Response
Libby Sister Site Field Sampling Activities at
Former Vermiculite Intermountain Facility - SLC2
333 West 100 South, Salt Lake City, UT
Summary Addendum Report (Revision 1)

Dear Mr. McGuiggin:

CDM Federal Programs Corporation (CDM) is pleased to submit this summary addendum report for the extended field sampling activities that occurred September 22 through September 24, 2003 at the former Vermiculite Intermountain facility at 333 West 100 South, Salt Lake City, UT (SLC2). The scope of services performed by CDM is pursuant to the scope of work included in the task order/technical direction referenced above. This report along with Attachments 1 through 4 present updated information since the Summary Report (Revision 1) dated January 29, 2003 (CDM 2003a). Information on background, site description, and site history are detailed in the earlier report. Results of the sampling activities that occurred October 14 through October 16, 2002 at SLC2 are included in Attachment 5 for easy reference. Supplemental information from Environmental Data Resources, Inc. (EDR) was ordered subsequent to the initial sampling round and is included as Attachment 6 of this report.

Extended Sampling

The overall objectives of the extended sampling effort were to:

- Ascertain the asbestos (i.e., both Libby Amphibole [LA] and total) concentrations in soil, waste/product, dust, and personal air samples.
- Determine polychlorinated biphenyl (PCB) concentrations in soils near areas where transformers and /or visible oil stains are located.
- Determine the vertical and horizontal extent of LA asbestos contamination.

This report summarizes the field activities and analytical testing that took place during the extended soil sampling event and dust/air sampling activities.

Summary of Sampling Activities

Field activities were conducted from September 22 through September 24, 2003 by Floyd Nichols (EPA On Scene Coordinator), Paul Kudarauskas (Volpe Center), Dean Costello and Frank Morris (CDM), and Melissa Petrak (MACTEC). Prior to performing any field activities, all field team members reviewed the site-specific health and safety plan. Field team members performing the soil sampling were outfitted in level C personal protective equipment (PPE).

Soil Samples

CDM conducted the soil sampling on approximately 50-foot centers over the entire site (Figure 1A–Attachment 1). Thirty-eight 5-point composite soil samples were collected from the surface (0 to 2-inches) within a 25-foot radius of each grid center or station ID (e.g., S11). Twenty-four subsurface soil grab samples were also collected at three consecutive depth intervals from native soil (below asphalt and fill material) in soil borings placed along the north, east, and south sides of the former processing plant (S01 to S10). Sample information including index ID, sample location, and depth intervals were recorded on field sample data sheets (Attachment 3). All soil samples for asbestos analysis were double-bagged in one-gallon plastic zip lock bags and shipped under chain of custody to the Close Support Facility (CFS) laboratory in Denver for processing prior to shipment for analysis at Reservoirs Environmental, Inc. Procedures for processing and analysis are detailed in the site-specific sampling and analysis plan (SAP) - Revision 2 (CDM 2003b).

Two composite soils samples were also collected for PCB analysis. Sample LSS-SLC2-P01-SS-00-02 was collected from an oily area observed in location S10 along the southern boundary of the electrical substation. Sample LSS-SLC2-P02-SS-00-02 was a composite soil collected from areas around two transformers (A and B). These samples were placed in pre-cleaned 8-oz. wide-mouth glass jars and shipped on ice to Alpha Analytical Laboratories under chain-of-custody for PCB analysis. See Figure 2A-Attachment 1 for sample locations.

Deviations from the above referenced SAP include:

- Soil sample locations were in general conformance with the sampling plan except that the proposed locations along 100 South and 400 West Streets were modified to best fit the exposed soil areas. Two proposed locations (S42 and S43) were omitted by the EPA OSC upon ground-truthing.

- Soil location S50 was relocated due to access issues in the fenced-off area on the Utah Transit Authority (UTA) property. Only one 5-point composite sample was collected inside the fenced area to represent soil conditions for that property.

- Soil borings along the south boundary (Utah Paperbox Co.) were inaccessible to the DPT rig. Therefore, a split-spoon was hammered by hand to collect one grab sample of native soil at each location.

Results from the extended soil sampling show abundant trace to relatively high percent (> 1%) concentrations of LA asbestos in exposed surface soils adjacent to the former processing plant and locations along the former railroad spur (Figure 1A - Attachment 1). In addition, one subsurface soil sample taken from the borings in the AMPCO parking lot detected LA asbestos at low trace levels (< 0.2%) under the asphalt parking lot. The soil sample was from 32 to 40 inches below the surface at boring location S02. However, this along with some vermiculite observed in other nearby core samples suggest that limited contamination may be present to the east of the site under the paved parking lot.

Low levels of PCBs (Aroclor 1260 @ 331 ppb) were detected in sample LSS-SLC2-P02-SS-00-02 from the vicinity of transformers A and B. The other sample was non-detect.

Bulk Waste Samples

Four bulk soil samples containing yard waste material with visible vermiculite were collected from locations representing different portions of the property ranging from obviously contaminated to potentially contaminated areas. Sample locations were selected under the direction of the lead government representative. Each sample consisted of approximately 1.5 cubic feet of surface soil. Bulk soil samples were collected in lined, 5-gallon, plastic buckets and shipped under separate chains-of-custody for archiving at the Denver CSF. Analyses will be performed at a later date pending direction from EPA through Volpe Center. Locations are shown in Figure 2A-Attachment 1 and field sample data sheets (FSDS) are included in Attachment 3.

- No deviations from the above referenced SAP were noted.

Personal Air Samples

A total of 3 personal air (PA) samples including one field blank were collected on September 23, 2003. Personal air samples were collected from the breathing zone of personnel collecting surface soil samples. The pump intake was situated on the collar of the individual doing the surface soil sampling to monitor worker exposure of LA asbestos as specified in OSHA regulations. One PA sample was collected in the morning while the employee collected soil samples in the area of the former processing plant. The other sample was collected in the afternoon while the employee collected soil samples in remaining portions of the electrical substation. FSDS in Attachment 3 provide more information of the sample collections. All of the air samples were shipped directly to Reservoir Environmental Laboratories under chain-of-custody and were analyzed by transmission electron microscopy (TEM) using AHERA counting rules.

Deviations from the above referenced SAP include:

- The direct-push technology (DPT) operator was not monitored because the soil boring operations had to be completed earlier than originally scheduled due to access conflicts at the proposed sampling sites. On account of the rapid mobilization required to complete the DPT work, this activity was completed before the MACTEC field team member had arrived on site. Therefore, only one day of personal air monitoring was required for the surface soil sampler. Sampling outside the fenced property along the street tree lawn did not require the personal air monitoring and PPE was downgraded to Level D.

No asbestos structures were detected on any of the PA samples that were collected.

Dust Samples

Microvacuum dust samples were collected from horizontal surfaces inside two of the surrounding buildings that were present when the former processing plant was in operation. On September 23, 2003, five composite dust samples (SLC2-1003 through SLC2-1007) were collected from horizontal surfaces inside the Artistic Printing shop and three composite dust samples (SLC2-1009 to SLC2-1011) were collected from horizontal surfaces inside the old brick switch house building located on the electrical substation property. FSDS in Attachment 3 provide a more accurate description of the sampled locations. A field blank was also collected for quality assurance purposes (SLC2-1008). All dust samples were shipped directly to Reservoir Environmental Laboratories under chain-of-custody and analyzed by TEM (ISO Method 10312).

- No deviations from the above referenced SAP were noted.

The samples were analyzed by TEM using ISO 10312 counting rules. Numerous asbestos structures (both LA and chrysotile) were detected in each sample collected, with the exception of the blank sample (Attachment 2). The highest number of LA structures detected in any one sample from the Artistic Printing shop corresponds to an asbestos concentration of 14,600 structures per square centimeter (s/cm^2). The UP&L blockhouse revealed the highest results from a shelf in the small interior room (292,000 s/ cm^2). The following is a brief description of the composited locations for each sample:

SLC2-1003	Southeast corner of Artistic Printing from two surfaces (top of electrical conduit box and top of large switch box).
SLC2-1004	Floor samples from east half of Artistic Printing along south wall (SW corner, center, SE corner).
SLC2-1005	Window sill at center of east wall inside Artistic Printing (north end, center, south end).

SLC2-1006	Center storage area within Artistic Printing (top of locker #5, top-center on east side).
SLC2-1007	Ink storage room along south wall of Artistic Printing (workbench, doorway, canisters).
SLC2-1008	Blank.
SLC2-1009	UP&L Substation blockhouse basement (top of crate at south end, shelf on east side, shelf on west side).
SLC2-1010	UP&L Substation main level (shelf in closet).
SLC2-1011	UP&L Substation (floor near back door, top of light switch boxes, window sill).

Although LA asbestos is the focus of this assessment, it should be noted that chrysotile asbestos was also detected at high levels surrounding the site. This may be the result of the processing plant and an associated smoke stack burning down and/or being demolished during the late 1980's.

Conclusions

- Analytical results for surface soils indicated that at least trace amounts ≤ 0.2 % to 3% of LA contamination are present over the supplemental area sampled at this site (Figure 1A - Attachment 1). Most of the samples containing trace or high levels of asbestos are within restricted or fenced areas and along the exterior of the Artistic Printing shop where the former rail spur was located. There is some evidence that homeless people occasionally find shelter in this area, although access is very tight between the fence and building. Of the 38 surface soil samples collected, 22 samples had < 0.2% LA, 4 samples had ≤ 1% LA, 6 samples had from 2 to 3% LA contamination, and 6 were non-detect. The surface soil samples with the highest LA concentration were collected at stations S22, S25, and S48 and contained 3% LA. Variability composite samples (SLC2-0065 and SLC2-0066) were collected from grids S22 and S19, respectively. Results varied by 1% at each location. Twenty-one of the 24 subsurface soil samples, including most of the parking lot samples, were non-detect for asbestos.

- All dust samples detected LA asbestos at wide range of levels from low to very high. The sampled surfaces were biased toward the most likely contaminated. Both building interiors sampled are operating facilities that had open windows exposed to the former processing plant. The EPA toxicologist will evaluate these levels and determine if further sampling of the air media and/or cleanup will be required.

- No LA structures were detected in the personal air samples indicating there was no residual contamination in the air, or disturbance due to the soil sampling effort.

- PCB analysis data is provided in Attachment 4 for soil disposal information purposes. The level of PCB detected in the one sample around the transformers is low and is expected to conform within UP&L disposal requirements.

- All blank samples were non-detect and data quality objectives were accomplished.

Attachments:

(1) Site detail maps (Figures 1A-2A) with color-coded results are included in Attachment 1.
(2) Attachment 2 contains the Tables 1 through 3 with analytical results for all samples.
(3) Completed FSDS are included in Attachment 3.
(4) Laboratory Summary Reports are included in Attachment 4.
(5) Sample results (October 2003) are included in Attachment 5.
(6) EDR Reports for SLC2 are included in Attachment 5.

If you have any questions, please call me at (617) 452-6257.

Sincerely,

Timothy B. Wall
Vice President and Task Order Manager
CDM Federal Programs Corporation

Attachments

cc: Paul Kudarauskas (Volpe Center)
Floyd Nichols (EPA Region 8)
Frank Morris (CDM Denver)
File 2603-023

Table 1 Soil Results-SLC2

Index ID	Loc_ID	Appearance	LA Qual (LA-MF[%])	LA Bin	Depth (inches)	Date	Matrix	Easting	Northing
SLC2-0001	S01	Fine	ND	A	12 to 15	9/22/2003	Soil	1529257.861	7448075.479
SLC2-0001D	S01	Fine	ND	A	12 to 15	9/22/2003	Soil	1529257.861	7448075.479
SLC2-0002	S01	Fine	ND	A	15 to 18	9/22/2003	Soil	1529257.861	7448075.479
SLC2-0003	S01	Fine	ND	A	18 to 21	9/22/2003	Soil	1529257.861	7448075.479
SLC2-0004	S02	Fine	TR (<0.2%)	B1	32 to 40	9/22/2003	Soil	1529258.625	7448115.967
SLC2-0005	S02	Fine	ND	A	48 to 54	9/22/2003	Soil	1529258.625	7448115.967
SLC2-0006	S02	Fine	ND	A	54 to 60	9/22/2003	Soil	1529258.625	7448115.967
SLC2-0007	S03	Fine	ND	A	30 to 36	9/22/2003	Soil	1529257.861	7448169.441
SLC2-0008	S03	Fine	ND	A	36 to 42	9/23/2003	Soil	1529257.861	7448169.441
SLC2-0009	S03	Fine	ND	A	42 to 48	9/23/2003	Soil	1529257.861	7448169.441
SLC2-0010	S04	Fine	ND	A	42 to 48	9/23/2003	Soil	1529268.119	7448217.897
SLC2-0011	S04	Fine	ND	A	48 to 52	9/23/2003	Soil	1529268.119	7448217.897
SLC2-0011D	S04	Fine	ND	A	48 to 52	9/23/2003	Soil	1529268.119	7448217.897
SLC2-0012	S04	Fine	ND	A	52 to 56	9/23/2003	Soil	1529268.119	7448217.897
SLC2-0013	S05A	Fine	ND	A	42 to 48	9/23/2003	Soil	1529268.482	7448283.917
SLC2-0014	S05A	Fine	ND	A	48 to 54	9/23/2003	Soil	1529268.482	7448283.917
SLC2-0015	S05A	Fine	ND	A	54 to 60	9/23/2003	Soil	1529268.482	7448283.917
SLC2-0016	S06A	Fine	ND	A	48 to 51	9/23/2003	Soil	1529218.067	7448266.086
SLC2-0017	S06A	Fine	ND	A	51 to 54	9/23/2003	Soil	1529218.067	7448266.086
SLC2-0018	S06A	Fine	ND	A	54 to 57	9/23/2003	Soil	1529218.067	7448266.086
SLC2-0019	S07	Fine	ND	A	36 to 42	9/23/2003	Soil	1529165.407	7448280.526
SLC2-0020	S07	Fine	ND	A	48 to 54	9/23/2003	Soil	1529165.407	7448280.526
SLC2-0021	S07	Fine	ND	A	54 to 60	9/23/2003	Soil	1529165.407	7448280.526
SLC2-0021D	S07	Fine	ND	A	54 to 60	9/23/2003	Soil	1529165.407	7448280.526
SLC2-0022	S11	Fine	ND	A	0 to 2	9/23/2003	Soil	1529239.926	7448245.91
SLC2-0023	S10	Fine	TR (<0.2%)	B1	0 to 6	9/23/2003	Soil	1529096.115	7448064.532
SLC2-0024	S09	Fine	TR (<0.2%)	B1	0 to 10	9/23/2003	Soil	1529141.651	7448064.888
SLC2-0025	S08	Fine	ND	A	0 to 5	9/23/2003	Soil	1529197.457	7448064.057
SLC2-0026	S12	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529193.269	7448246.622
SLC2-0027	S13	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529145.697	7448247.01
SLC2-0028	S14	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529240.059	7448195.338
SLC2-0029	S15	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529193.078	7448195.87
SLC2-0030	S16	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529144.128	7448194.834
SLC2-0031	S17	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529239.437	7448143.19
SLC2-0031D	S17	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529239.437	7448143.19
SLC2-0032	S18	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529193.235	7448143.814
SLC2-0033	S19	Fine	2%	C	0 to 2	9/23/2003	Soil	1529142.849	7448144.521

Table 1 Soil Results-SLC2 (continued)

Index ID	Loc_ID	Appearance	LA Qual (LA-MF[%])	LA Bin	Depth (inches)	Date	Matrix	Easting	Northing
SLC2-0034	S20	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529239.727	7448090.179
SLC2-0035	S21	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529193.02	7448091.464
SLC2-0036	S22	Fine	3%	C	0 to 2	9/23/2003	Soil	1529142.741	7448091.755
SLC2-0037	S23	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529097.268	7448088.983
SLC2-0038	S24	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529094.608	7448144.984
SLC2-0039	S25	Fine	3%	C	0 to 2	9/23/2003	Soil	1529096.392	7448193.476
SLC2-0040	S26	Fine	ND	A	0 to 2	9/23/2003	Soil	1529039.962	7448091.626
SLC2-0041	S27	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529040.252	7448139.319
SLC2-0041D	S27	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529040.252	7448139.319
SLC2-0042	S28	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529041.55	7448191.131
SLC2-0043	S29	Fine	ND	A	0 to 2	9/23/2003	Soil	1528992.252	7448090.57
SLC2-0044	S30	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1528997.146	7448137.488
SLC2-0044D	S30	Fine	<1%	B2	0 to 2	9/23/2003	Soil	1528997.146	7448137.488
SLC2-0045	S31	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1528992.567	7448194.696
SLC2-0046	S32	Fine	TR (<0.2%)	B1	0 to 2	9/24/2003	Soil	1528967.466	7448012.757
SLC2-0047	S33	Fine	TR (<0.2%)	B1	0 to 2	9/24/2003	Soil	1528968.165	7448063.313
SLC2-0048	S34	Fine	ND	A	0 to 2	9/24/2003	Soil	1528968.82	7448113.217
SLC2-0049	S35	Fine	ND	A	0 to 2	9/24/2003	Soil	1528968.975	7448163.405
SLC2-0050	S36	Fine	TR (<0.2%)	B1	0 to 2	9/24/2003	Soil	1528969.445	7448202.194
SLC2-0051	S37	Fine	<1%	B2	0 to 2	9/24/2003	Soil	1528969.098	7448260.819
SLC2-0052	S38	Fine	TR (<0.2%)	B1	0 to 2	9/24/2003	Soil	1528968.623	7448310.961
SLC2-0053	S39	Fine	ND	A	0 to 2	9/24/2003	Soil	1528966.319	7448359.081
SLC2-0054	S40	Fine	TR (<0.2%)	B1	0 to 2	9/24/2003	Soil	1529022.826	7448405.817
SLC2-0054D	S40	Fine	<1%	B2	0 to 2	9/24/2003	Soil	1529022.826	7448405.817
SLC2-0055	S41	Fine	TR (<0.2%)	B1	0 to 2	9/24/2003	Soil	1529098.916	7448404.295
SLC2-0058	S44	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529146.068	7448387.555
SLC2-0059	S45	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529145.304	7448344.945
SLC2-0060	S46	Fine	TR (<0.2%)	B1	0 to 2	9/23/2003	Soil	1529146.068	7448297.017
SLC2-0061	S47	Fine	<1%	B2	0 to 2	9/23/2003	Soil	1529003.771	7448285.041
SLC2-0062	S48	Fine	3%	C	0 to 2	9/23/2003	Soil	1529036.059	7448258.962
SLC2-0063	S49	Fine	2%	C	0 to 2	9/23/2003	Soil	1529080.766	7448231.641
SLC2-0064	S50	Fine	2%	C	0 to 2	9/23/2003	Soil	1529016.46	7448225.21
SLC2-0065	S22	Fine	2%	C	0 to 2	9/23/2003	Soil	1529142.741	7448091.755
SLC2-0066	S19	Fine	<1%	B2	0 to 2	9/23/2003	Soil	1529142.849	7448144.521
SLC2-0066D	S19	Fine	<1%	B2	0 to 2	9/23/2003	Soil	1529142.849	7448144.521

Table 2 Personal Air Sampling Results (SLC2)

Date Sampled	Index ID Number	Name / Sample Type	Location	Air Volume (Liters)	Libby Amphibole Concentration (S/cc)
9/23/03	SLC2-1000	Dean Costello	Collar of Soil Sampler (AM)	276	None Detected
9/23/03	SLC2-1001	Dean Costello	Collar of Soil Sampler (PM)	365	None Detected
9/23/03	SLC2-1002	Field Blank	Field Blank	0	None Detected

Table 3 Dust Sampling Results (SLC2)

Date Sampled	Sample Number	Location*	Libby Amphibole Structures Detected	Libby Amphibole Concentration (S/cm^2)
9/23/03	SLC2-1003	Artistic Printing	8	14,600
9/23/03	SLC2-1004	Artistic Printing	1	122
9/23/03	SLC2-1005	Artistic Printing	7	8,530
9/23/03	SLC2-1006	Artistic Printing	4	7,310
9/23/03	SLC2-1007	Artistic Printing	2	244
9/23/03	SLC2-1008	Field Blank	0	None Detected
9/23/03	SLC2-1009	Pacificorp UP&L Blockhouse	9	27,400
9/23/03	SLC2-1010	Pacificorp UP&L Blockhouse	4	292,000
9/23/03	SLC2-1011	Pacificorp UP&L Blockhouse	1	2,440

*See FSDS for specific surfaces sampled.